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## 教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	賽局理論與經濟應用(一)		學年/學期 Academic Year/Semester	100/2	
課程名稱(英文) Course Name in English	Game Theory with Economic Applications (I)				
科目代碼 Course Code	IIE_57900	系級 Department & Year	碩士	開課單位 Course-Offering Department	經濟學系
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)	3.0/3.0		
授課教師 Instructor	/林慧菁				
先修課程 Prerequisite	/				
課程描述 Course Description					

## 賽局理論與經濟應用 (一)

教學目標：賽局在社會科學中之應用相當廣泛，舉凡政治、經濟、產業、管理等各學界皆有運用賽局之範例，本課程將理論與應用並重，強調賽局理論之邏輯性思維而非艱澀的數學驗證，以培養學生應用賽局理論來設計經濟模型及解釋經濟問題之能力。

評分標準：期末考(take-home)(30%)、期末報告(60%)、以及上課表現(10%)。

教科書：

[R]. Rasmusen, E (2007), Games and Information, 4th ed. Blackwell.

可供碩、博士班參考之書籍：

[Fr]. Friedman, J. W. (1991), Game Theory with Applications to Economics, 2nd ed., Oxford U. Press.

[G]. Gibbons, R. (1992), Game Theory for Applied Economists, Princeton U. Press.

[Fu]. Fudenberg, D. and J. Tirole (1991), Game Theory, MIT Press.

[M]. Myerson, R. B. (1991), Game Theory: analysis of Conflict, Harvard U. Press.

[O]. Osborne, M. J. and A. Rubinstein (1994), A Course in Game Theory, MIT Press.

以及其他補充教材與論文集。

課程大綱：

Introduction ([Fr] Ch. 1, [R] Ch.1-2, [G] 1.1, 2.4A)

Game form, definition and solution concepts

Complete Information:

Strategic form games ([Fr] Ch. 3, [R] Ch. 3, [G] pp 1-48)

Dominant Strategies and Dominated Strategies

Nash equilibrium

App. Cournot game

Bertrand game

Etc.

Extensive form games ([Fr] Ch. 2, [R] Ch.4, [G] pp 55-137)

Dynamic games, backward induction and Nash equilibrium

Subgame perfection

Sequential equilibria

Bargaining games (Nash, Ariel Rubinstein)

App. Stackelberg game

Centipede game

Entry deterrence game

Etc.

\*Repeated games ([Fr] Ch. 4-5, [R] Ch. 5, [G] 2.3)

Finitely repeated prisoners' dilemma

Folk theorem

Reputation

Signaling

App.

Incomplete information: ([Fr] Ch., [R] Ch. 6-, [G] pp 143-252)

Bayesian Nash equilibrium

Perfect Bayesian equilibrium

Bargaining with private information

Sequential equilibrium

Revelation Principle

App.

Implementation Theory ([R] Ch. 10, [O] Ch. 10)

Nash implementation

Subgame perfect implementation

Mechanism design

App.

Cooperative Games ([Fr] Ch. 6-8)

### 課程目標 Course Objectives

近年來經濟分析大量引用賽局理論，研究生必須充分掌握此一工具，方有能力學習與理解新的經濟理論，為獨立的研究能力奠定基礎

圖示說明 Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated



評量方式補充說明  
Grading & Assessments Supplemental instructions

教科書與參考書目 (書名、作者、書局、代理商、說明)  
Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

教科書：

[R]. Rasmusen, E (2007), Games and Information, 4th ed. Blackwell.

可供碩、博士班參考之書籍：

[Fr]. Friedman, J. W. (1991), Game Theory with Applications to Economics, 2nd ed., Oxford U. Press.

[G]. Gibbons, R. (1992), Game Theory for Applied Economists, Princeton U. Press.

[Fu]. Fudenberg, D. and J. Tirole (1991), Game Theory, MIT Press.

[M]. Myerson, R. B. (1991), Game Theory: analysis of Conflict, Harvard U. Press.

[O]. Osborne, M. J. and A. Rubinstein (1994), A Course in Game Theory, MIT Press.

課程教材網址 (教師個人網址請列在本校內之網址)  
Teaching Aids & Teacher's Website (Personal website can be listed here.)

<http://faculty.ndhu.edu.tw/~hclin/>

其他補充說明 (Supplemental instructions)